THE EXCHANGE

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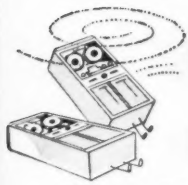
THE CASE AGAINST WITHHOLDING DIVIDENDS

THE MISSILE AGE

THE ODD-LOT INVESTOR



Computer–on Guard!

IN an age of electronic brains capable of running a kitchen without the aid of human hands or plotting the course of an atomic submarine which has been submerged for months, it is reassuring to discover a chore or two that gives these 20th Century wizards a moment of mechanical indigestion.

Such a moment of triumph was ours, editorially speaking, when we asked a computer specialist friend to see if it would be possible to work out the odds (probability is the word, we were told) of a stock trading 1,704,500 shares in a range of 11¼ points throughout 1960 and winding up the year at precisely the same price it closed the previous year.

We weren't just being ornery in suggesting this exercise, of course, because a practical problem was involved. The figures covered the 1960 activity of American Viscose Corp., which closed 1960 at 42½, the very same price at which it ended 1959. (As the table shows, nine other issues closed 1960 at their identical final 1959 prices.)

Our friend came back the next day, and confessed, sadly and simply: "It's impossible."

However, our satisfaction at stumping the omnipotent machine was short-lived. Our favorite mathematician told us that this was an impossible problem, both for a mechanical brain and the human one.

But if you must reduce the puzzle to some mathematical solution, the chances are about 97 to 1—based on the records of the past four years—that any stock you might select *at random* will end the year unchanged.

This means that about 10 issues should end 1961 unchanged. Care to try to pick them?

TEN NYSE LISTED STOCKS WHICH CLOSED 1960 AT THE SAME PRICE AS 1959

Issue	Closing Price	1960 Range High	1960 Range Low	1960 Reported Volume
American Viscose Corp.	$42½	$44⅛	$32⅞	1,704,500
Anderson, Clayton & Co.	38½	44¼	36	195,200
Cinn. Milling Machine Co.	38¼	39½	26½	215,800
Continental Oil Co.	55¾	57½	40	1,065,600
Dominick Fund, Inc.	19¼	19½	16⅛	187,700
Libby, McNeill & Libby	10½	12½	9⅛	834,900
Patino Mines & Enterprises	2¼	3	1½	156,700
Petroleum Corp. of America	16¼	16⅞	13⅛	172,900
Sunray Mid-Continent Oil Co.	23⅝	24½	20½	1,185,100
Sunshine Mining Co.	7	7¾	5⅛	440,200

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MARTIN AND THE MISSILE AGE

by WILLIAM B. BERGEN,
President, The Martin Company

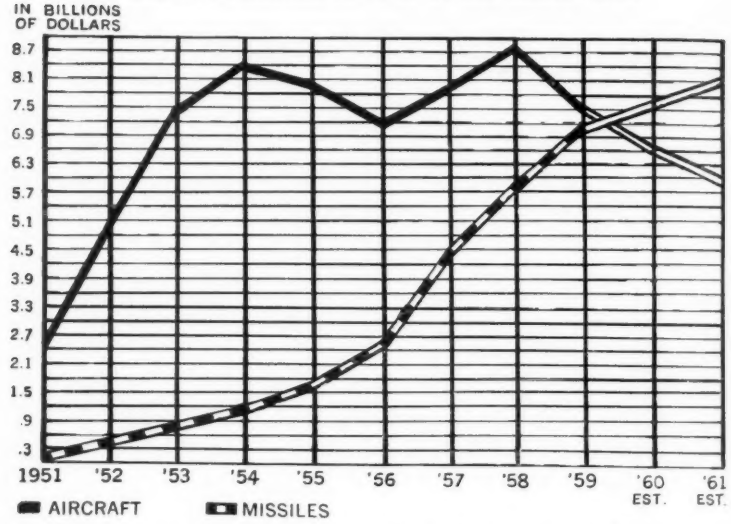
William B. Bergen helped to establish Martin's leadership in the fields of missiles and electronics as the first chief of the company's guided missile section in 1945. Mr. Bergen initiated development of the Air Force's Matador, the country's first operational surface-to-surface tactical missile, and also the Navy's Viking high-altitude research rocket. Born in 1915, Mr. Bergen joined Martin in 1937 after graduating from the Massachusetts Institute of Technology. He became president of Martin in 1959, having been vice-president engineering, vice-president operations, and executive vice-president.

ON AUGUST 20, 1953, the U.S.S.R. announced that it had exploded a thermonuclear bomb; what we call the modern defense industry was born the same day.

This loss of America's monopoly of the hydrogen bomb made obsolete the old concept of preparedness under which power resided in the country with more and bigger arms or the ability to produce them in overwhelming quantities once war began. In its place went a doctrine of technological war that makes national survival dependent on the maintenance of a

THE COVER: A 98-foot Titan ICBM undergoes final inspection.

GOVERNMENT EXPENDITURES FOR AIRCRAFT AND MISSILES 1951-61



ready-to-go arsenal of deterrence as modern as tomorrow. It is the defense industry's business to supply that deterrence.

How does the defense contractor meet this responsibility? What exactly does he do? How do his activities differ from those of companies in other industries? How do you judge this new kind of business? What is its potential? The answers are implicit in the transition of the Martin Co. in nine years from a manufacturer of aircraft to the country's largest missile maker.

Last December, Martin delivered its last aircraft. It is now involved completely in missiles, nucleonics, electronics and aerospace activities. But this development was neither accidental nor a pragmatic day-to-day adjustment. Rather, one year before the Soviet announcement, Martin decided, after a calculated appraisal of the country's defense needs, that it would gradually withdraw from the aircraft industry in which it had pioneered and concentrate its efforts in the missile and allied areas.

It was not an easy decision. For in 1952, while the national budget for missiles had increased *eight* times to $169 million from $21 million the previous year, expenditures for manned aircraft rose to $4.8 billion from $2.1 billion. And within a year of its decision, aircraft spending had again *doubled* to $8.3 billion. However startling those figures were then, the fact is that *today* spending on missiles and supporting equipment has

climbed some 50 times to $8 billion a year and aircraft has declined to $6 billion (see chart). Without that decision, Martin today would be in a still profitable but declining industry instead of a front runner in a profitable, expanding industry.

These results flow from a whole spectrum of activities carried on in our main plants in Baltimore and new facilities in Denver, Colorado, and Orlando, Florida. Altogether some 41,000 people are engaged in major missiles programs like Titan, Pershing, Bullpup and Mace; highly complex electronic air defense and warning systems like Missile Master and BIRDIE; the country's first competitive, portable atomic power plant, and basic research in a number of scientific disciplines. And although Martin has attained a position of leadership in this brand new industry, the company is only part of a vast new undertaking that has been dictated by national requirements.

If World War III comes, the experts say it will be an "inventory" war. There will be no time to build an Arsenal of Democracy. The prospect is for a short, decisive conflict employing equipment that is in operational readiness.

Secondly, that inventory needs to be fluid. That is to say, it must continually incorporate the latest advances in technology and strategy. Under these conditions, the defense contractor's job is not to put together an already developed system without making any conceptual contribution. It is rather an essential part of his responsibility and a condition of survival to make that conceptual contribution. And few requirements are as important as the ability to take a project through successive generations of improvement.

As an example, in 1956 Martin started development of America's first two-stage intercontinental ballistic missile, Titan I, in its Denver plant—the free world's only completely integrated facility for manufacture, test and future missile development. This unique engineering and production establishment not only produced Titan I, which set a record for successful firings at Cape Canaveral in 1960, but also paved the way for a more effective but less costly ICBM, Titan II. This Sunday-punch missile will be capable of almost instantaneous launching because of its storable fuel, and has all the advantages of a solid-fuel missile without sacrificing efficiency in range, payload capacity and cost.

Finally, one of the least understood paradoxes of this new kind of business is that it is often impossible to take advantage fully of mass production. Because we are in a race for technological supremacy, we cannot produce a design, freeze it, and turn it out in volume. The Russians won't let us. By the time a missile has reached the firing pad, major improvements are already being incorporated into subsequent models. History rarely repeats itself in this new industry, and that is the primary reason

why so much missile work is on a cost-plus-fixed-fee basis.

Of course, as a risk taker, the defense contractor needs to make a reasonable return. Otherwise he finds himself hard pressed to attract the capital necessary for his survival as a company as well as for the survival of the indispensable reservoir of technical capability his operation represents. Martin's own experience indicates that with increases in volume, a defense contractor can increase his total dollar profit. Moreover, while earnings as a per cent of sales are on the low side, they compare favorably with other high-volume, low-profit industries. Earnings as a return on investment can often equal the better records in the economy.

Advanced Space Missiles

The development of a scientific capability is not simply a matter of numbers. Martin, for example, employs some 7,500 engineers. That figure takes on added meaning when you know that 40 per cent are in electronics. What's more, we have 150 mathematicians on our staff working on astronautics, the study of motion in space, orbital mechanics and space trajectory. Teams are studying bionics, the life sciences, and how men get along in space. But it is one of management's primary functions to understand exactly what his staff can and cannot do and to be able to plan ahead on the basis of that awareness.

The issue, as in any other business, is survival.

Recently, for instance, Martin was awarded a contract for a six-month feasibility study of an advanced space vehicle. As dollars go, it is a small contract; but its potential is very large. The project eventually will be part of this decade's massive space program, which will involve total expenditures of somewhere between 12 and 15 billion dollars.

A primary reason why Martin was selected is simply this: The company started working in the space field about 14 years ago, and in more recent years has had some 400 engineers devoting full time to research and design bearing directly on space operation.

Martin has had similar experiences with missiles. In 1946 it developed the Matador, which for years was the Air Force's primary operational missile in Europe. From that initial work came Mace, the only ground-to-ground missile with a low-level capability making it invulnerable to radar detection.

Altogether then, the defense business reflects the accelerating rates of technological change that influence everything we do. As a participant in that industry, Martin's involvements today are broader than most. In our work in missiles, nucleonics, electronics and aerospace activities, the company is building a scientific capability that enables it to make a continuing maximum contribution to the nation's defense requirements.

THE 1960 ODD-LOT INVESTOR

FOR the second year in a row, American Telephone & Telegraph Co., Standard Oil Co. (N. J.) and General Motors Corp. finished one-two-three in 1960 at the head of the list of the 25 most active odd-lot issues.

The common stocks of these three giants of American industry have dominated odd-lot volume ratings since THE EXCHANGE Magazine first reported the exclusive figures four years ago—but 1960 marked the first carbon-copy finish. GM topped the list in 1957 and 1958.

Odd-lotters are investors who buy or sell one to 99 shares of issues traded in 100-share units. An analysis of the 25 odd-lot volume leaders indicates that odd-lotters:

- Prefer securities of well-known and well-established companies.
- Have a wide variety of price preferences but show a leaning toward shares selling around $40 or less.
- Are interested in a wide variety of investment objectives. Odd-lotter preferences—based on an interpretation of yields and the companies involved—range in emphasis from dividend income to growth possibilities and capital appreciation.
- Often have decidedly different views from their round-lot cousins—who buy or sell in 100-share units. AT&T, for instance, rated only ninth in round-lot volume but was tops in odd-lot turnover.

Eighteen, or 72 per cent, of the 25 most active odd-lot issues declined during 1960 while seven, or 28 per cent, showed a year-to-year rise in price. For the market as a whole in 1960, almost 38 per cent of the issues posted advances, about 61 per cent lost ground, and less than one per cent were unchanged. Odd-lot investors, of course, are generally in the market for the long pull and these figures should be considered in that context.

Incidentally, if you think odd-lot transactions are a minor part of Stock Exchange business, consider these figures: Odd-lot volume in 1960 amounted to 164,546,000 shares, or 21.5 per cent of reported round-lot volume of 766,694,000 shares.

International Business Machines stood out on several counts. It was the highest priced stock of all 25 issues, closing the year at $593 a share; it had the lowest yield—.5 of one per cent—of all issues which

paid cash dividends; and it posted the largest year-to-year gain of $154.75 a share.

Average closing 1960 price for the 25 odd-lot volume leaders was $64 a share. Eliminating IBM, the average dropped to about $42. Average closing price for *all* listed shares in 1960 was $46.74. Final 1960 prices of the top odd-lot issues ranged all the way from $7 for Studebaker-Packard to $593 for IBM.

Dividends for the 21 issues which made cash payments last year averaged $1.56 a share, with a top of $3.30 for AT&T and a low of 25 cents for Nafi.

Median yield was 3.7 per cent. Four issues paid no cash dividends. They were Ampex Corp., Thiokol Chemical Corp., Studebaker-Packard Corp., and Collins Radio.

Six issues made their debut on the list last year: Brunswick, Ampex, Pfizer, Collins Radio, Nafi

25 LISTED COMMON STOCKS WHICH TOPPED ALL OTHERS

Stock	1960 Reported Share Volume		Ratio of Round-Lots to Odd-Lots
	Odd-Lots	Round-Lots	
American Tel. & Tel. Co. (9)	3,751,208	5,388,242	1.44-to-1
Standard Oil Co. (N. J.) (3)	3,736,693	9,477,107	2.54-to-1
General Motors Corp. (4)	2,736,511	7,176,120	2.62-to-1
General Tel. & Elec. Corp. (5)	2,516,377	6,290,900	2.50-to-1
American Motors Corp. (1)	1,864,202	13,205,900	7.08-to-1
Brunswick Corp. (6)	1,486,738	6,055,100	4.07-to-1
Bethlehem Steel Corp. (13)	1,308,486	4,516,600	3.45-to-1
Sperry Rand Corp. (15)	1,232,234	4,401,100	3.57-to-1
Ampex Corporation (8)	1,130,764	5,964,700	5.27-to-1
Int'l Business Machines Corp.	1,101,123	955,300	.87-to-1
Thiokol Chemical Corp. (22)	1,098,106	3,611,300	3.29-to-1
Ford Motor Company (12)	954,276	4,613,415	4.83-to-1
Socony Mobil Oil Co. (34)	923,198	2,840,400	3.08-to-1
Int'l Tel. & Tel. Corp. (16)	910,262	4,115,600	4.52-to-1
Gulf Oil Corp. (20)	905,419	3,734,600	4.12-to-1
Studebaker-Packard Corp. (2)	876,278	12,558,100	14.33-to-1
Columbia Gas System, Inc.	860,469	2,053,400	2.39-to-1
Pfizer (Chas.) & Co. (32)	844,139	2,895,500	3.43-to-1
Collins Radio Co. (36)	831,203	2,774,200	3.34-to-1
Avco Corporation (10)	828,097	5,080,200	6.13-to-1
General Electric Co. (23)	818,598	3,599,500	4.40-to-1
Nafi Corporation (7)	797,022	6,023,300	7.56-to-1
Minnesota Mng. & Mfg. Co.	785,179	1,970,200	2.51-to-1
General Dynamics Corp.	782,234	2,218,900	2.84-to-1
U. S. Steel Corp. (19)	774,322	3,912,100	5.05-to-1

NL Not Listed.

IN OD

and Minnesota Mining. Nine others have made the grade all of the past four years: AT&T, Jersey Standard, GM, Bethlehem Steel, Sperry Rand, Ford Motor, Socony Mobil Oil, Columbia Gas and General Dynamics.

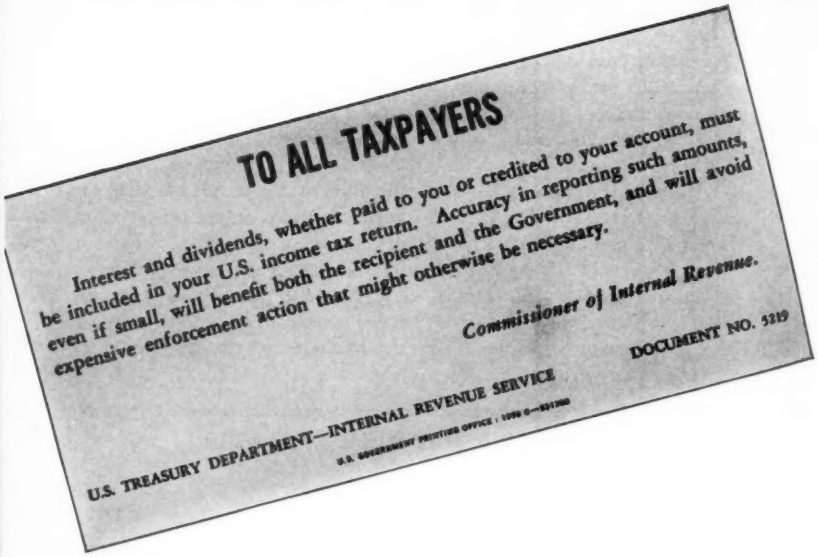
Nine which made the 1959 list failed to repeat in 1960, headed by Aluminium Ltd., rated 11th in 1959. Others missing included Raytheon, Monsanto, Phillips Petroleum, United Fruit, Chrysler, Boeing, Olin Mathieson and General Tire.

The 25 odd-lot leaders are listed in the table below in the order of their 1960 rankings. Where applicable, prices and dividends have been adjusted for splits and stock dividends; in such cases, volume in the old issues has been included. The figure in parentheses after the name of an issue notes its position, if any, among the 50 round-lot leaders in 1960.

IN ODD-LOT BUYING AND SELLING VOLUME LAST YEAR

Popularity Ranking						
1959 Odd-Lot Vol.	1958 Odd-Lot Vol.	1957 Odd-Lot Vol.	1960 Close	1960 Cash Divs. (Incl. Extras)	% Yield	1960 Price Change
1	2	3	$107⅛	$3.30	3.1	$+ 27⅜
2	3	2	41¼	2.25	5.5	– 8⅜
3	1	1	40⅝	2.00	4.9	– 13⅞
9	—	—	27½	0.75	2.7*	– ½
4	6	—	17½	1.05	6.0*	– 10⅜
—	—	—	49⅞	0.33	0.7*	+ 28½
13	4	4	39⅝	2.40	6.1	– 14⅞
5	5	5	21⅝	0.80	3.7	– 4⅛
—	NL	NL	24⅜	—	—	– 11⅜
15	19	—	593	3.00	0.5	+154¾
7	—	NL	37⅛	—	—	– 18⅝
10	22	7	64⅛	3.00	4.7*	– 26⅝
8	14	13	39¼	2.00	5.1	– 2¼
12	—	—	48	1.00	2.1	+ 9½
—	—	20	33⅜	0.97	2.9	– 2¼
6	12	—	7	—	—	– 14¾
17	21	17	23⅝	1.03	4.4*	+ 3⅜
—	—	—	30¾	0.80	2.6	– 2¼
—	NL	NL	46½	—	—	– 19⅝
14	—	—	13⅝	0.50	3.7	– 1¾
—	16	12	74½	2.00	2.7	– 24⅝
—	—	—	31	0.25	0.8	+ 17⅜
—	—	—	73⅞	0.58	0.8*	+ 15¼
16	10	6	38¾	1.75	**	– 8¼
—	8	8	75½	3.00	4.0	– 23⅛

* Dividend rate increased in calendar year 1960.
** Dividend rate decreased in calendar year 1960.


TO ALL TAXPAYERS
Interest and dividends, whether paid to you or credited to your account, must be included in your U.S. income tax return. Accuracy in reporting such amounts, even if small, will benefit both the recipient and the Government, and will avoid expensive enforcement action that might otherwise be necessary.
Commissioner of Internal Revenue.
DOCUMENT NO. 3219
U.S. TREASURY DEPARTMENT—INTERNAL REVENUE SERVICE

THE CASE AGAINST **WITHHOLDING DIVIDENDS**

By L. C. MAY
Treasurer, American Telephone & Telegraph Co.

DESPITE the outstanding progress to date of the U. S. Treasury's voluntary program for closing the gap between dividend and interest income received by taxpayers and that reported in their tax returns, there is considerable sentiment in Congress for a withholding program covering such income.

Ignoring the fact that dividend and interest income represents a different "kettle of fish" than salaries and wages, advocates of the withholding program seem to brush aside its many drawbacks. Principal drawbacks are the heavy additional costs that would be imposed on both dividend and interest payers and the U. S. Treasury

in administering the program, the over-withholding and resulting hardships that would affect many recipients of such income, and the continuous annoyances and red tape that would be involved in obtaining refunds. Furthermore, there is no assurance that mandatory withholding would provide significantly more net tax revenue than the Treasury's voluntary program ultimately would produce.

The cost of withholding would fall with unequal impact on the various companies. American Telephone & Telegraph Company, which has its shareowner records on magnetic tape and employs a large scale electronic computer for preparing dividend payments, would incur relatively small cost per account in withholding the tax from quarterly dividends. This is an exceptional case, however. The great majority of companies do not have shareowner lists of sufficient size and activity to justify mechanization to the degree employed by A.T.&T. In fact, many companies or their dividend paying agents have very little mechanization in this work. It is on these companies that the greatest additional costs would fall and, based on certain estimates that have been made, the aggregate of these costs would total many millions of dollars. To the extent that the taxable income of these companies is reduced by these increased costs, there would be a corresponding reduction in tax revenue to the U. S. Treasury.

Of primary concern are the inequities and hardship that universal withholding would cause for many recipients of dividend and interest income. Many thousands of pension funds, colleges, foundations and other institutions and

Computer processes A.T.&T. shareowner records.

agencies with such income are tax-exempt. In addition, evidence points to the fact that hundreds of thousands of individuals actually incur no tax liability for dividend or interest income. Withholding from any of these investors would result first in sterilization of funds which are badly needed in most cases and second in onerous efforts by such investors and the government to effect the necessary refunds of taxes that should not have been collected in the first place.

Let's consider the case of the A.T.&T. Co. alone. This company has more than 1,911,000 shareowners, of which more than 1,750,000 are in the names of individuals including some 600,000 joint ownership accounts. It is believed that most of these shareowners are persons of modest means and many are retired from active employment. About half of these individual shareowner accounts receive less than $100 in dividends per year and 500,000 receive less than $50. There are about 30,000 custodian accounts for minors, and a recent survey made by the company indicates that a least 400,000 are over age 65. Based on the company's correspondence and other contacts with its shareowners over the years, it is certain that a great many thousand have insufficient income to be subject to a tax. This condition is probably repeated in numerous other companies.

In all cases of over-withholding there would be needless waste—waste of cost to the companies in making the withholding, waste of effort and expense to individuals in securing refunds due them, and waste of manpower and expense in the Internal Revenue Service in making refunds.

All of this argues for allowing the U. S. Treasury a reasonable period of time to test the results of its voluntary program. If approximately the same results can be achieved by that program without the costs, inequities and hardships of mandatory withholding, the approach to be preferred is rather obvious.

How Effective Can an Educational Program Be? The Answer: Very Effective Indeed.

In this particular case, "education" meant more than $500 million dollars in additional taxable income to the United States Government from unreported dividends.

In the summer of 1959, the United States Treasury Department and the Internal Revenue Service organized a vigorous program to encourage full reporting of dividends and interest on a voluntary basis.

Why such a program? In the case of dividends, the answer is very simple: To eliminate or at least minimize a gap of roughly three-quarter billion dollars between the amount of dividends received, as reported by stockholders, and the amount paid to stockholders as reported by corporations.

A coordinated information campaign — using newspapers, magazines, radios, television, company media, envelope stuffers and talks by government and industry leaders—was launched. Top business and financial organizations throughout the country cooperated.

In the first year alone, more than 75 million special notices were sent to recipients of dividends and interest. The Internal Revenue Service itself revised tax forms and instructions to emphasize the reporting requirements for dividends and interest.

This nation-wide informational program has been—in the words of former Internal Revenue Commissioner Latham —"amazingly successful" in reducing the dividend gap.

Estimates by the New York Stock Exchange indicate that for 1959 the dividend gap has dropped to less than $150 million compared with nearly $675 million estimated for 1958.

In terms of net revenue loss to the Treasury, this small gap means only $25 to $50 million.

While the Exchange's most recent estimate is based on figures that are in part preliminary, the fact that under-reported or unreported dividends in 1959 appear to be less than two per cent of dividend payments makes the dividend gap relatively negligible.

The Editor

PRODUCTION FLEXIBILITY

A Fresh Approach to the New Car Market

By JOHN QUIRT

IT is no secret that the auto manufacturing industry has been having profit-margin troubles of late. It is not the only industry to have them, of course. But its problems have differed somewhat from those of steelmakers or other manufacturers who are fighting comparatively low rates of production and high labor costs which invite foreign competition.

Autodom's most pressing problem is that it can no longer predict with reasonable accuracy the share of the market any particular car is likely to obtain. This, it seems, has created a plethora of planning and production difficulties that are intensified as additional makes, models, engine and transmission options are offered in an effort to please the market.

Some of the compacts clearly have been carrying thinner profit margins than their parent versions and this has contributed to a lower return on sales despite overall increases in unit volume for nearly every manufacturer. The table on page 11 is suggestive of what has happened to automobile profits as a per cent of sales.

Some understanding of just how the industry got into these straits

is basic to any discussion of what it is doing to try to get out. During the 1950's, it must be remembered, Detroit did business in ways which made it possible for trained outsiders to predict with a fair degree of accuracy profits and even the style changes of cars.

General Motors, for example, worked with three basic body shells and spent most of its tooling money each year radically revamping just one of the three. Ford followed a somewhat similar pattern and Chrysler made substantial engineering improvements but few radical style changes from year to year. In the pre-Rambler and pre-Lark days, American Motors' predecessors—Nash and Hudson—and Studebaker deviated little from the pattern set by the Big Three.

Chrome and Horsepower

The country was still shaking off the effects of World War II plus Korea in the middle 'fifties and it wanted cars with plenty of chrome and horsepower. The public needed new automobiles to replace those that had been driven since the war and they did not seem too fussy about what they bought.

Four-door hardtops sold well in the city, the suburbs and the country; limited purpose cars like the Hudson Jet and Kaiser's Henry J. meanwhile, found few customers.

It was not, in fact, until the country got fussy about what it would buy that Detroit began to examine more seriously first its customers and then its ways of manufacture. Research was stepped up in a market that seemed all at once to be embracing imports and the Rambler as transportation pieces, while rejecting the Edsel; accepting tail fins on the Cadillac but eschewing them on cheaper makes.

What the surveys of the automakers showed was that their great big horsepower-loving, car-buying public was dividing itself into several comparatively small, relatively sophisticated markets, each demanding vehicles to perform special functions. One market insisted upon economical four-door sedans for city driving, another wanted long station wagons for country hauling, still another short-wheelbased wagons for running errands in the suburbs.

Within each of the several markets, moreover, there was emerging a demand for almost as many six-cylinder engines as V-8s and for almost half as many straight-stick transmissions as automatics. As its markets continued to split up in fission-like fashion, Detroit looked harder at ways to shift production quickly from one make or model to another until last fall, when, in introducing the second generation of compacts (Lancer, F-85, Special, Tempest and Comet) the industry turned with a rush to the concept of maximum manufacturing flexibility.

To be sure, the idea of keeping plants and machinery flexible enough to shift from one job to

another is not new in itself. Detroit has tried to keep itself reasonably limber in this respect since the war. But the industry's willingness to put flexibility ahead of other shibboleths—e.g., minimum cost per unit at full production—is new.

Most of the strides toward optimum flexibility since 1959 have been made in the sometimes hard-to-appreciate nuts-and-bolts areas of the business, and the problems have differed for each manufacturer. Ford Motor Co., for example, took perhaps its most significant step in December when it devised a way to run both a unitized (Falcon) body and a frame (full-size Ford) body on the same production line at its Atlanta assembly plant.

General Motors, on the other hand, uses no unitized bodies except on its low-volume Chevrolet Corvair and assembles both its new compacts and full-size cars on the same line at its Southgate, California, plant. It hopes to flex its assembly operations even more in the next year. Some of GM's biggest strides toward flexibility have come in areas such as the long-distance cartage of new cars—it now can load and carry both compacts and full-size sedans on the same truck.

Chrysler, too, has been moving in the direction of double and triple duty assembly operations; its plants have been re-equipped so that each can build any make but the Imperial, although most of them currently are producing only like-wheelbased cars—i.e., Chrysler Newport and Dodge Polara. Chrysler also has trimmed its engine plants in number from five to two, now makes all six-cylinder engines in one plant, V-8s in the other.

American Motors and Studebaker, with less extensive lineups of cars than their bigger competitors, of course face fewer obstacles to overcome in attaining optimum flexibility. Each already has its entire manufacturing and assembly operation centralized in one location.

A close-up look at what one

FIVE SELECTED AUTOMOTIVE COMPANIES

Stock	Earnings per Common Share		Profit as % of Sales		1960 Cash Dividends (Including Extras)	1960 Close	Yield**
	1959	1960	1959	1960			
American Motors Corp. ..	$3.39a*	$2.68a*	6.93a	4.56a	$1.05	$17½	6.0%‡
Chrysler Corp.	0.62†	3.61	.21†	1.07	1.50	38⅜	3.9
Ford Motor Co.	8.24	7.80	8.43	8.17	3.00	64⅛	4.7‡
General Motors Corp.	3.06	3.35	7.77	7.55	2.00	40⅝	4.9
Studebaker-Packard Corp.	4.24	0.03†	7.37	.22	—	7	—

**Yield based on 1960 close and cash dividends paid in calendar year 1960.
*Fiscal year ended September 30. †Deficit.
aAdjusted for stock dividends and split-ups. ‡Dividend rate increased in calendar 1960.

manufacturer, Ford, has been doing provides some further understanding of the entire concept. Last fall Ford cut the Lincoln from three series to one, dropped two series of the Mercury into Ford's price bracket and centralized manufacture under one division.

Then the company doubled up its assembly line operations. A Mahwah, N. J., plant outfitted for Fords began assembling Mercurys too. At San Jose, California, the Falcon and Comet — essentially made from the same body stamping—began running on one line and this spring both compacts will also be assembled at an Eastern plant now making only Falcons. A bevy of new welding equipment and other machinery is required for these changeovers but Ford is convinced that the increased flexibility is worth the expense.

Retail Flexibility Too

Ford has been pushing for greater flexibility at the manufacturing and retailing levels too. Multiple boring machines have been redesigned to permit the manufacture of different-size engines on the same line. And Lincoln-Mercury dealers, long accustomed to low-volume, high-price selling, are being encouraged to adjust their sights to high-volume, low-price selling of Comets when the market dictates.

The thinking at Ford behind all this was spelled out in a speech made by Vice-President James Wright before a Harvard Graduate School of Business Administration audience recently. Said Mr. Wright:

"We are investing substantial sums in the redesign of machines and facilities which in the past have been dedicated to the production or assembly of a single product. . . . In our four metal stamping plants the presses have been redesigned so that one die can be moved and another put in its place very quickly. If the volume for one line of cars falls below our planned production it is relatively easy to utilize machines which formerly would have been idle to stamp parts for some model whose acceptance is greater than we had anticipated.

"We produce two kinds of six-cylinder engines for our compact cars. . . . Within our total capacity, we will be able to vary production levels between the two engines on the same machine by as much as 200,000 units, depending on which engine proves more popular."

Ford's principal competitors are pursuing flexibility along similar, though in some cases less clearly defined lines. For the industry, the whole effort is coming at a time when Detroit can use whatever benefits improved flexibility can provide. Production cutbacks have put every manufacturer well behind last year's rate of output, and as the industry moves into the final three quarters of the year, it seems likely that the degree to which it succeeds in achieving flexibility will play no little part in determining its profitability.

PREFERREDS IN ARREARS

THE amount of back dividends owing on cumulative preferred stocks in arrears increased slightly during 1960 for the first time in many years. The number of such issues on January 1, 1961, totaled 10, against 9 a year earlier.

At the start of 1961 these ten preferreds were behind $29,241,097, which compared with—although not for the same stocks—$28,121,578 at the start of 1960.

Three issues were removed from the arrears list during 1960: Amalgamated Leather Co. 6 per cent convertible preferred was suspended from trading; Fairbanks-Whitney $1.60 convertible preferred paid all arrears; and Lehigh Valley Industries $3 1st preferred was recapitalized.

Four newcomers appeared: J. I. Case Co. 7 per cent preferred and 6½ per cent 2nd preferred, Erie-Lackawanna R.R. 5 per cent "A" preferred and U. S. Hoffman Machinery 5 per cent cumulative preferred.

A cumulative preferred stock is one on which dividends accumulate if not paid regularly. In almost every case, when a company has a preferred arrearage, dividends cannot be paid on the common stock.

There is no guarantee, of course, that accumulated preferred dividends eventually will be paid. They may be paid in full, in part or they may not be paid at all.

LISTED DOMESTIC PREFERRED STOCK ISSUES IN ARREARS
As of January 1, 1961*

Issue	Approximate Arrearage Per Share	Approximate Arrearage Amount	Market Price 12/30/60	Cash Dividends Paid in 1960
Dividends Accrued for Less than 10 Years				
Case (J. I.) Co.—7% pfd.	$ 1.75	$ 162,586	$ 73¼	$7.00
Case (J. I.) Co.—6½% 2nd pfd.	0.11	131,878	3⅞	0.46
Chicago & Eastern Illinois—A	2.00	150,000	18½	nil
Erie-Lackawanna R.R.—5% A pfd.	6.25	782,000	26½	nil
N. Y., New Haven & Hartford—5% A	5.00	2,457,700	5½	nil
U. S. Hoffman Machinery—5% cum.	0.63	38,764	17	1.88
Van Norman Inds.—Cv. Pfd.	0.57	88,523	28½	2.10
Dividends Accrued for 10 Years or More				
International Rys. of C.A.—5% cum.	$59.75	$ 5,975,000	$ 56¾	nil
Reis (Robt.) & Co.—$1.25 pfd.	15.00	1,241,700	12	nil
Virginia-Carolina Chem.—6% Part.	85.50	18,215,946	111	nil

* Includes all dividend declarations made in 1960.

COLLEGE INVESTMENT CHOICES

MOST people interested in the stock market would probably rate institutions such as pension funds, college endowments and insurance companies as expert investors. The sheer magnitude of the funds for which they are responsible obviously calls for the most painstaking investment decisions.

A study of the investment portfolios of four large university endowment funds shows some interesting parallels—and some interesting differences.

Oil, chemical and electrical issues accounted for more than 76 per cent of the market value of the 10 largest blocks of listed common stocks held by each of four major universities at the close of fiscal 1960: Princeton, Columbia, Cornell and Vanderbilt.

The market value of oil issues alone amounted to $21,011,000, or 34.7 per cent, of the top holdings of these universities. Individual issues included Texaco, Standard Oil (N.J.), Gulf Oil, Standard Oil of California and Socony Mobil.

Chemical and drug stocks totaled $13,204,000 or 21.8 per cent of the top holdings, and electrical issues $11,882,000 or 19.7 per cent.

Utility issues (including American Telephone) came to $6,702,000 or 11.1 per cent; papers $2,896,000 or 4.8 per cent; machinery $2,077,000 or 3.4 per cent; foods $1,752,000 or 2.9 per cent; and rubber $968,000 or 1.6 per cent.

PRINCETON UNIVERSITY

Market Value of Listed Shares at Close of Fiscal Year

	1960	1959
Texaco Inc.	$5,303,000	$5,662,000
International Business Machines Corp.	4,850,000	4,001,000
Standard Oil Company (N.J.)	2,796,000	3,640,000
Gulf Oil Corporation	2,688,000	3,607,000
Dow Chemical Company	2,176,000	2,157,000
du Pont de Nemours (E.I.) & Co.	2,090,000	2,480,000
Union Carbide Corporation	1,982,000	2,130,000
American Home Products Corp.	1,858,000	1,660,000
Standard Oil Co. of California	1,682,000	2,704,000
Smith Kline & French Laboratories	1,650,000	1,860,000

Classified by industries, the 40 blocks of stock included ten oils, nine chemical and drugs, seven utilities, six electricals, three paper, two food, two machinery and one rubber.

International Business Machines Corp. was an odds-on favorite on a dollar basis. The stock, with a combined market value of $8,401,000, was included in the portfolios of Columbia, Princeton and Vanderbilt. Texaco, held by Princeton and Columbia, was second with a market value of $7,044,000.

Standard Oil (N.J.), held by Princeton, Columbia and Cornell, placed third with a market value of $5,992,000. Gulf Oil was fourth —Princeton and Columbia held blocks with a combined market price of $3,957,000. E. I. duPont was fifth, with Princeton and Cornell listing blocks with a market value of $3,023,000.

Princeton's $5,303,000 block of Texaco was the largest single holding in the four portfolios.

A study of the top holdings of the four portfolios indicates two different investment approaches. Princeton and Columbia focused

CORNELL UNIVERSITY

Market Value of Listed Shares at Close of Fiscal Year

	1960	1959
Standard Oil Company (N. J.)	$1,542,000	$2,194,000
American Telephone & Telegraph Co.	1,199,000	861,000
Kimberly Clark Corp.	1,186,000	1,050,000
Procter & Gamble Co.	1,160,000	816,000
Eastman Kodak Co.	1,071,000	688,000
International Paper Co.	1,022,000	1,201,000
Coca-Cola Co.	1,011,000	816,000
Goodrich (B.F.) Company	968,000	1,498,000
du Pont de Nemours (E.I.) & Co.	933,000	697,000
West Penn Power Co.	813,000	700,000

COLUMBIA UNIVERSITY

Market Value of Listed Shares at Close of Fiscal Year

	1960	1959
International Business Machines Corp.	$2,350,000	$2,899,000
Texaco Inc.	1,741,000	1,794,000
Standard Oil Co. (N. J.)	1,654,000	1,816,000
American Telephone & Telegraph Co.	1,310,000	1,672,000
Gulf Oil Corp.	1,269,000	1,564,000
Socony Mobil Oil Company, Inc.	1,241,000	1,342,000
Westinghouse Electric Corp.	1,151,000	920,000
Standard Oil Co. of California	1,095,000	1,290,000
Ohio Edison Company	1,040,000	845,000
General Electric Company	1,019,000	825,000

on just a few industries while Cornell and Vanderbilt spread their investments.

Princeton held five chemical and drug issues, four oils and one electrical, while Columbia's list concentrated on five oils, three electricals and two utilities.

Cornell, on the other hand, distributed its ten blocks among seven industries: Oil, utility, paper, food, rubber, machinery and chemical. Six were represented in Vanderbilt's portfolio: electrical, machinery, utility, food, chemical and paper.

Total value of *all* issues in the four portfolios was $250,773,000; Princeton tops at $106,056,000, Cornell at $59,927,000, Columbia third at $51,211,000 and Vanderbuilt fourth at $33,579,000.

At the end of fiscal 1959 (the fiscal years end on June 30), the total market value of the four portfolios was $254,656,000.

The difference in the dollar value of each security in 1960 and 1959, of course, could have been caused either by a change in the market value of the same number of shares or in the number of shares held.

VANDERBILT UNIVERSITY

Market Value of Listed Shares at Close of Fiscal Year

	1960	1959
International Business Machines Corp.	$1,201,000	$1,429,000
Eastman Kodak Co.	1,006,000	687,000
Texas Utilities Company	917,000	759,000
General Electric Company	858,000	746,000
Standard Brands Inc.	741,000	509,000
Southern Company	727,000	557,000
Procter & Gamble Co.	708,000	490,000
Central & South West Corp.	696,000	572,000
Scott Paper Company	688,000	633,000
Richardson-Merrell Inc.	647,000	390,000

THOR Joins List

THOR Power Tool Co., Aurora, Ill., needs little introduction to do-it-yourself devotees. However, the tools used by the home craftsman represent but a few of the 1,500 types of power-driven products made by Thor and in use in industry, road and building construction, automotive service, mining, quarrying and trade crafts.

Thor joined the Stock Exchange list on January 27 (Symbol: TPT) with 826,803 no-par common shares. The initial trade was made at $27.12.

The company has declared quarterly dividends without interruption since 1915, the most recent one last December being the 181st consecutive payment. The current annual rate is $1.60 a share. The company has about 3,800 shareowners.

Thor started manufacturing air tools for railroads and industry in 1893 and originally was known as the Aurora Automatic Machinery Co. It was incorporated in Delaware in 1913 under the name Independent Pneumatic Tool Co. In 1953, the name was changed to the Thor Power Tool Co.

A wide range of products comes off the lines at the company's plants in Aurora, Los Angeles, Cincinnati, Chicago, LaGrange Park, Ill., and Tynemouth, England. These include universal electric tools, high frequency electric tools, demolition-type air tools,

Tiny Frances Pukas finds it's easy with a Thor air hoist.

gasoline-driven tools, electric appliances such as scissors, animal clippers and shoe polishers, also electric motors for business and vending machines and appliances, conveyor belting, rubber hoses, molded rubber products and industrial air conditioning and heat processing equipment.

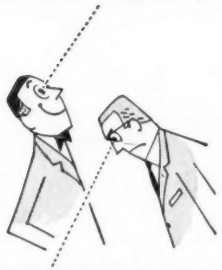
THOR POWER TOOL BOX SCORE

Year	Net Sales	Net Income
1960	$31,661,616	$1,435,428
1959	31,480,920	1,687,720
1958	26,932,408	818,868
1957	30,486,411	2,110,497
1956	28,429,777	2,517,205

Year	Net Per Share	Div. Per Share
1960	$1.74	$1.60
1959	2.05	1.60
1958	1.00	1.60
1957	2.57	1.60
1956	3.06	1.54a

Recent Price 29· Yield: 5.5%
Price-Earnings Ratio: 16.7 to 1
a—adjusted for stock dividend

MOST WENT UP



SOME WENT DOWN

THE decade of the 1950's was marked by the greatest increase in stock prices in history. This is evident, of course, from the Dow-Jones Industrial Average, which stood at 200 at the end of 1949 and now hovers around the 660 mark, not far from its record high of 685 in January, 1960.

It is not surprising, therefore, that the past decade has meant large price increases for a majority of the issues listed on the Stock Exchange in 1950 and still traded in 1960. Perhaps most noteworthy is the fact that 331 issues, or 43 per cent, showed price rises of 100 per cent or more. As the table below shows, there were 601 issues, or 78.2 per cent, which closed 1960 above their 1950 highs.

But this is little consolation to an investor who in 1950 bought a stock at $50 a share only to see it fall to $25 at the end of 1960.

Nor is this mere conjecture. More than one out of five common stocks listed in both years closed 1960 below their 1950 highs.

In all, there were 167 such issues, including 79 which declined more than 30 per cent and 36 which dropped more than 50 per cent.

As these figures show, there's more to sound investment practice than pulling a company's name out of a hat—even during such a remarkable era as the 1950's.

PRICE CHANGES AS OF DECEMBER 30, 1960, FROM 1950 HIGHS

Issues Which Have Increased	Number	% of Total Listed
+ 100% or More	331	43.0
+ 60% to 99.9%	99	12.9
+ 20% to 59.9%	110	14.4
+ 10% to 19.9%	25	3.2
+ Less than 10%	36	4.7
Total	601	78.2
No Change	1	0.1
Issues Which Have Declined	**Number**	**% of Total Listed**
− 50% or Over	36	4.7
− 30% to 49.9%	43	5.6
− 10% to 29.9%	56	7.2
− Less than 10%	32	4.2
Total	167	21.7

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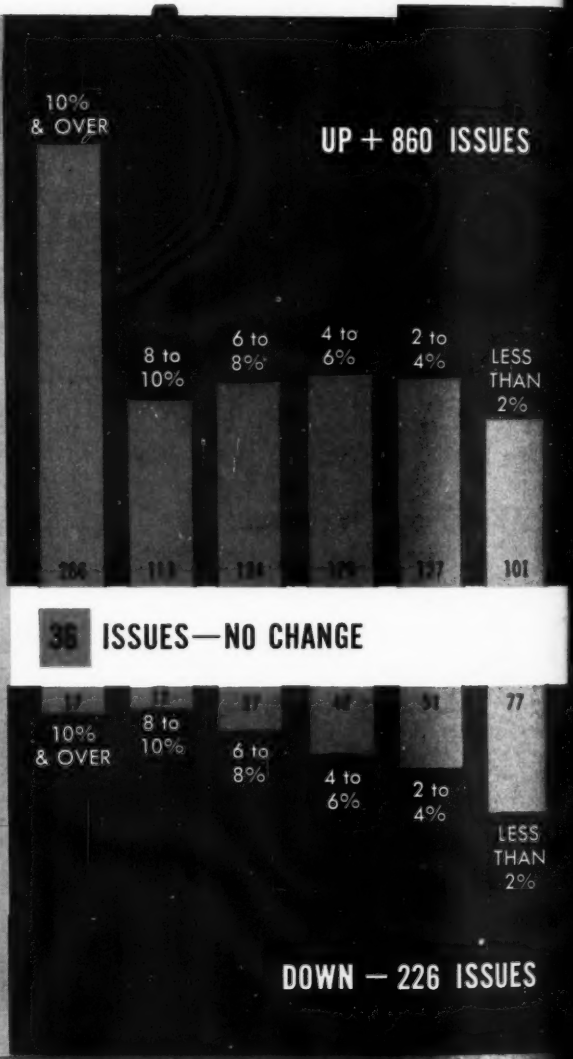
CHANGES IN PRICES OF LISTED COMMON STOCKS

***Distribution of 1122 NYSE Issues By Percentage Price Change in Month Ended* FEBRUARY 15, 1961**



DOW-JONES 65 - STOCK AVERAGE	
JAN. 13	213.23%
FEB. 15	219.61
CHANGE	+3.0%

STANDARD & POOR'S 500-STOCK INDEX	
JAN. 13	59.60%
FEB. 15	61.92
CHANGE	+3.9%

UES
LESS
THAN
2%
101
77
LESS
THAN
2%
UES